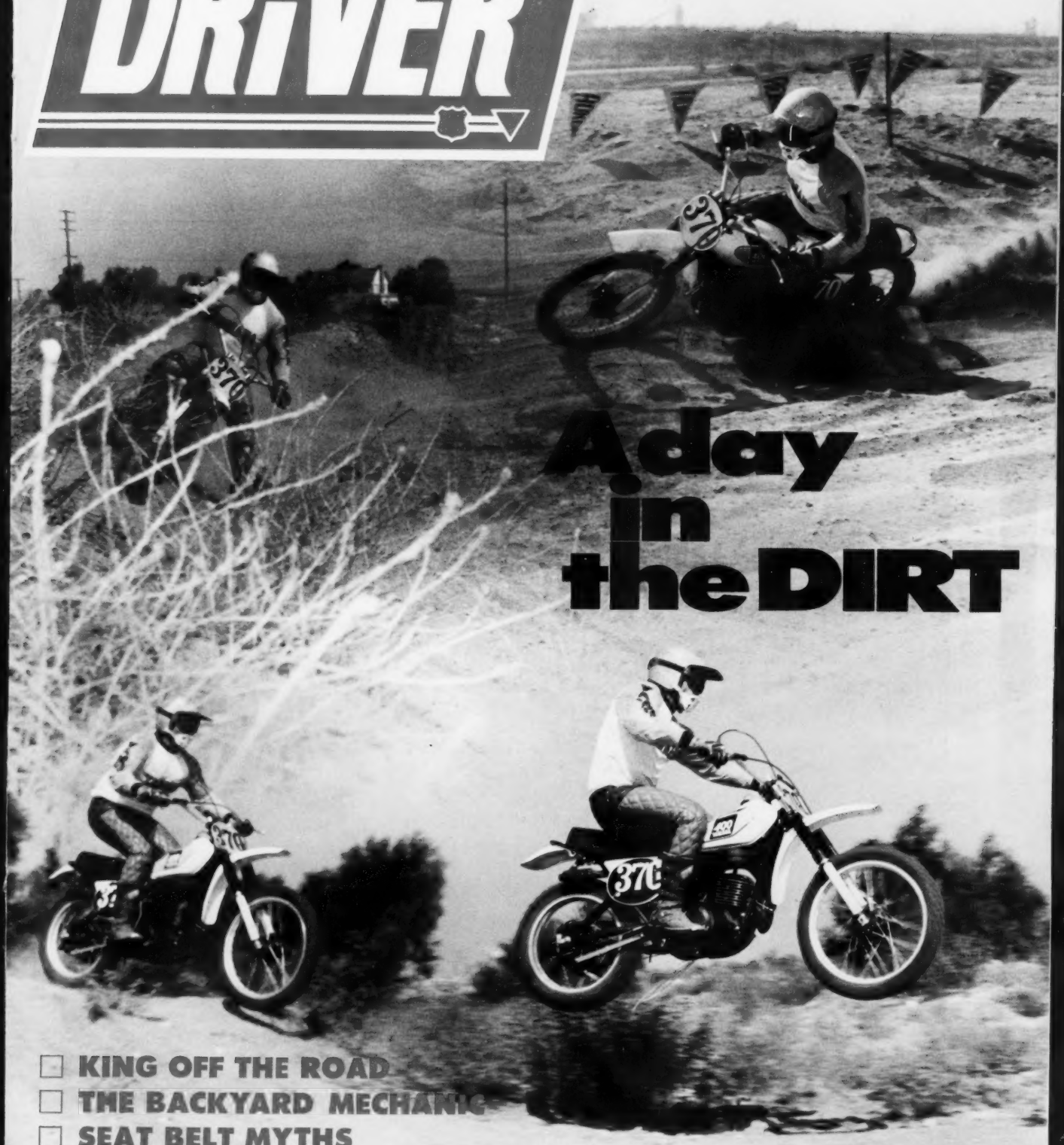
THE BIG FREEZE IS COMING

DRiVER

OCTOBER 1975

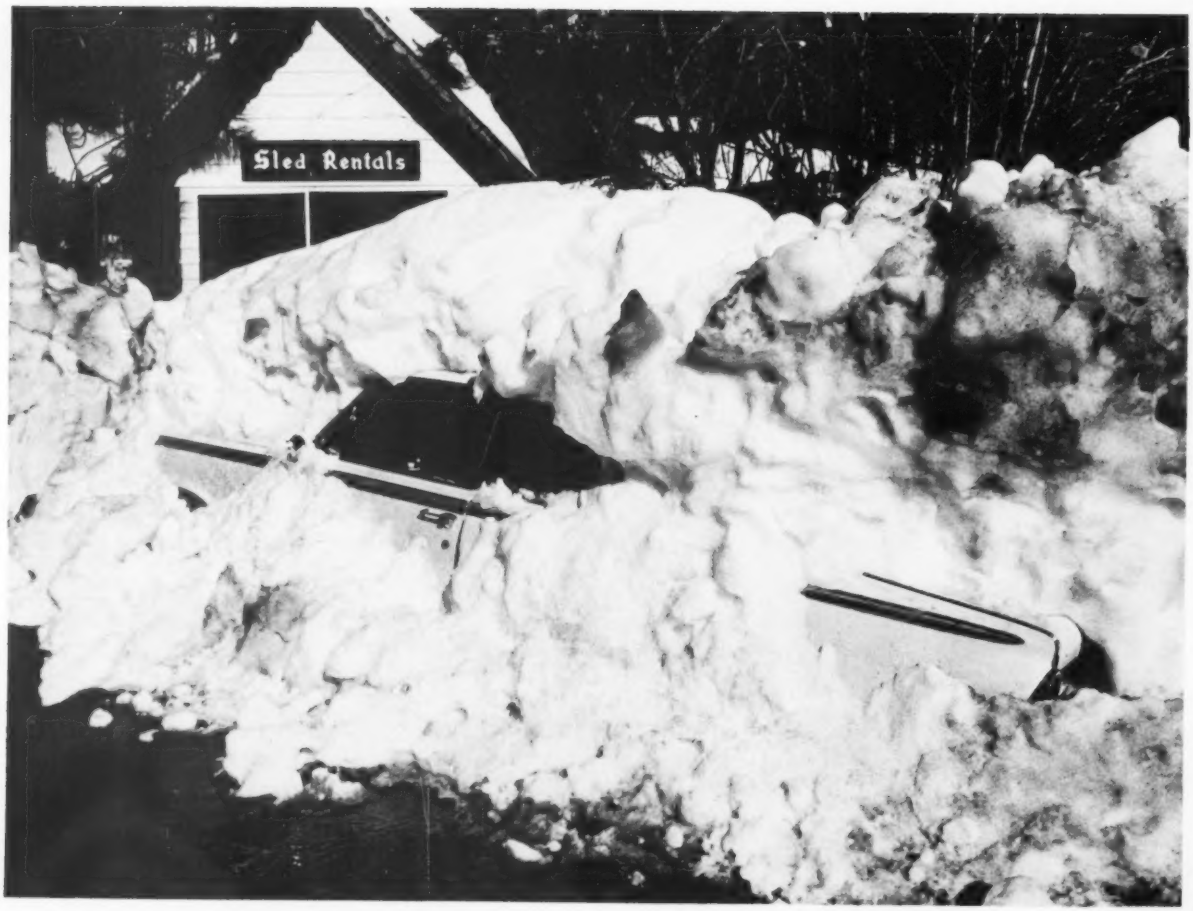


A day in the DIRT

- KING OFF THE ROAD
- THE BACKYARD MECHANIC
- SEAT BELT MYTHS

DRiVER

THE big



freeze IS COMING!

Ever notice what a con artist Mother Nature can be? Take those autumn days — all blue sky and golden leaves and warm afternoon sun. "Kick back," she whispers in your ear, "Who wants to think about snow tires and antifreeze on a day like this?"

Treacherous old dame that she is, she's planning to drop the temp to 20 degrees and churn up a first-rate snowstorm that very night.

If you don't want to play her game, now's the time to winterize your car. True, it's going to take a little time and cost you a few bucks. How much depends on what kind of shape your car is in before you begin. But in the long run winterizing now can save you money.

For example, it's a good idea to clean your plugs, check the timing and adjust your carburetor. A minor tune-up can improve your gas mileage by 20% as well as save you from a dangerous stall in heavy traffic.

Insure good starts by cleaning up the battery. The electrical system works a lot harder in cold weather. Make sure the battery is fully charged and that terminal connections are clean and tight for full power. If you find corrosive paste on the battery case, get it cleaned off — it can prevent the battery from receiving a strong charge from the generator.

Winter driving often means a lot of short trips, with the result that the engine doesn't always reach a good, warm operating temperature. This causes incomplete combustion and engine oil becomes diluted with unburned gasoline. This in turn causes inferior lubrication, and acids formed by unburned gases and moisture in the crankcase attack bearings, valves, pistons, and cylinder walls, accounting for more than 80% of engine wear. So allow time for the engine to warm up for two or three minutes before driving on a cold day. Better to use a little extra gasoline than to ruin that expensive engine.

THE COOLING SYSTEM

A surprising number of people think the word "permanent" in connection with coolant means the stuff lasts forever. Not so. "Permanent" simply means it can be used all year long. True, it will give antifreeze protection winter after winter, as long as it isn't overly diluted and the system doesn't leak. But it won't protect against corrosion indefinitely and that's one of its most important jobs.

Corrosion can attack all the metals in your cooling system: steel, cast iron, copper, brass, solder — even aluminum. Your coolant can protect your engine from corrosion for a year or so, but then exhaust gases that

continued

(left)
After you dig it out, clean the glass all around. Don't just scratch a peephole in the windshield. Clear snow and ice from under the front fenders to avoid jamming your wheels in a turn.

DRIVER

THE TRAFFIC SAFETY MAGAZINE FOR THE MILITARY DRIVER

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THE EDITOR SPEAKS

DOUBLE CLUTCH

MANDATORY HELMET LAW NOT FAIR?

A recent article presented a good argument supporting mandatory motorcycle laws. It pointed out that use of a helmet is not entirely a matter of individual consideration because serious injury resulting from nonuse may cause the motorcyclist to become a burden to society.

The same argument can be applied equally to promoting mandatory seat belt laws. And some motorcyclists cry "discrimination" because their state has the helmet law but not the seat belt law, and may refuse to use either. But is this really a good reason not to wear a helmet when riding, or a seat belt when traveling in a car? We don't think so.

We feel that DRIVER readers wear helmets and use seat belts because they believe in them regardless of the arguments and debate. They are the type who really dig driving, riding, and life in general. They take pride in their handling skill and in the way their car or cycle runs and looks. These are the people who also realize that use of the helmet and seat belt is simply a matter of improving the odds for survival in a world that gives them pleasure. For them there is no arguing. . . .

NEXT MONTH
Single Car Accidents

escape through a cylinder-head gasket get into the cooling system, where the gases turn to acids and weaken the rust inhibitors in the coolant.

If you suspect yours needs replaceing, check a sample. A rusty brown color or the presence of sediment means it's past time to flush the system and replace the coolant. Look for leaks and bad hoses while you're at it.

EXHAUST SYSTEM

The possibility of carbon monoxide poisoning increases in winter. Keep a window open a crack while driving. Even with windows "cracked," carbon monoxide leaking from defective tailpipes or mufflers is a hazard. So be certain the exhaust system is in good shape. Don't warm up the car in a closed garage.

Keep a distance from the exhaust of the car ahead. When the heater system introduces outside air, it could introduce carbon monoxide, too.

Owners of "slide-in" or "cap-type" truck-camper outfits should inspect exhaust system tailpipes and tailpipe connections. Deaths have occurred when camper occupants were resting inside camper units with the vehicle engine running. Whether your rig is homemade or commercially designed, be sure the vehicle tailpipe length is adequate to bring exhaust out from under both truck and camper and that all exhaust system connections and parts are leak-proof.

BRAKES

Right now, while the roads are still clean and dry, give some thought to the condition of your brakes. Check the hydraulic system to see that the fluid level is up and the system isn't leaking. A quick and easy check is to simply depress the brake pedal and hold it down with plenty of force. If the pedal stays firm the

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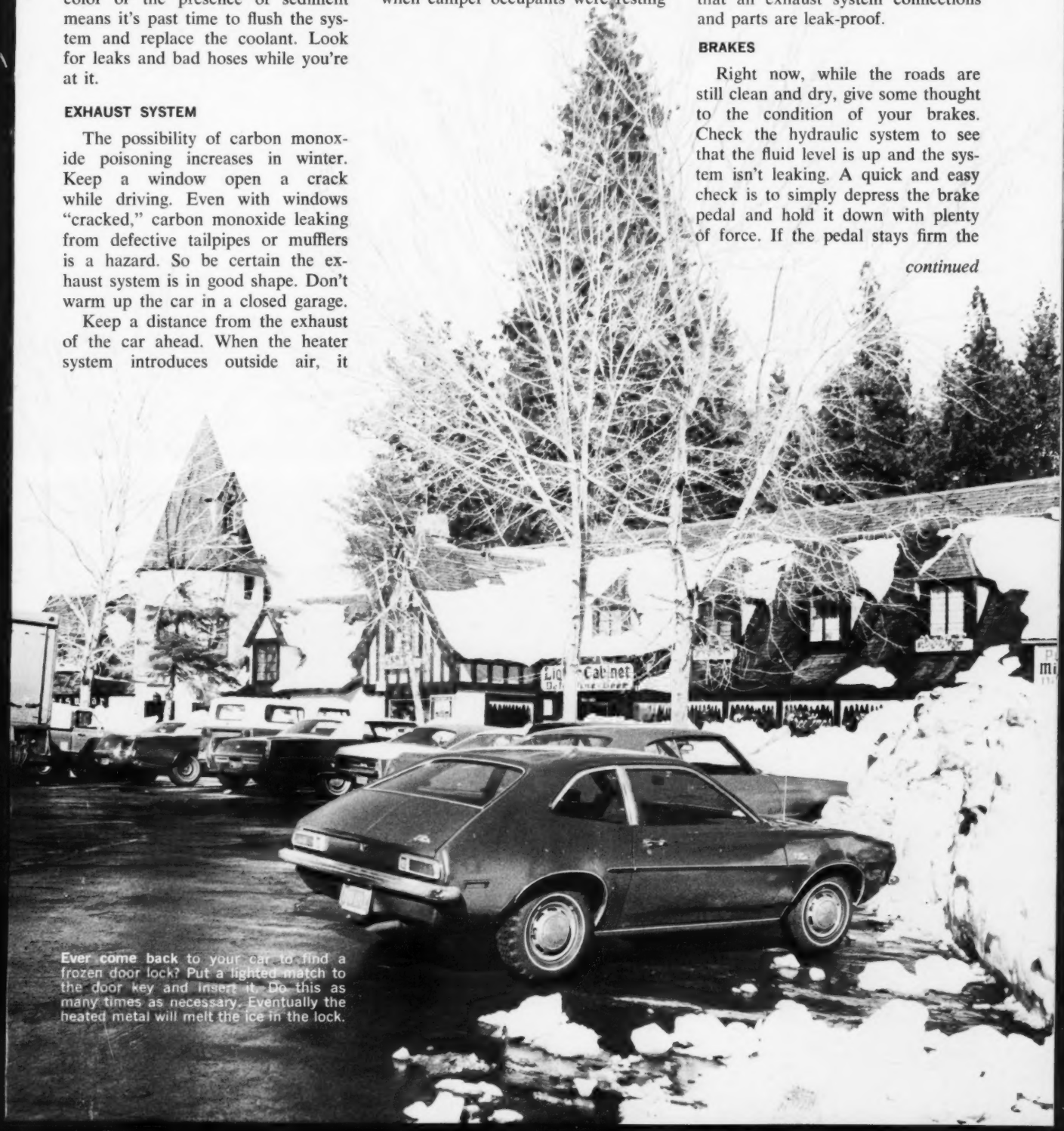
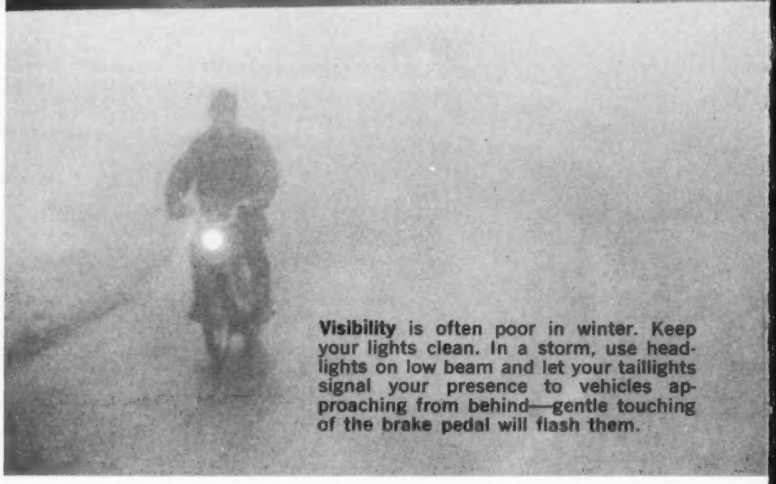
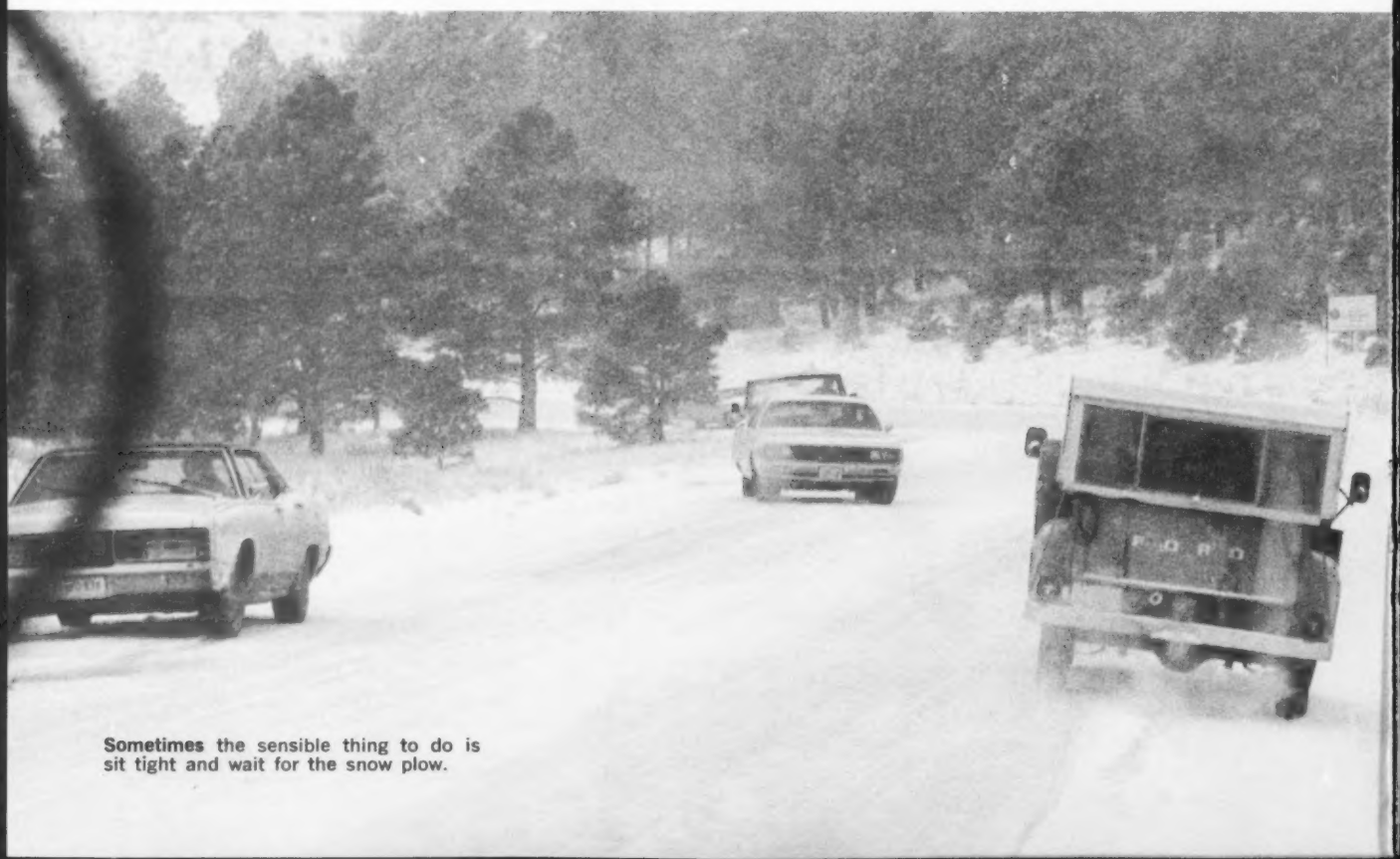


Ever come back to your car to find a frozen door lock? Put a lighted match to the door key and insert it. Do this as many times as necessary. Eventually the heated metal will melt the ice in the lock.

Emergency triangles like this warn drivers they are approaching a stalled car. At night they pick up the headlight beams of an oncoming car, bounce back a bright red light. They are safer than flares, last just about forever.



Visibility is often poor in winter. Keep your lights clean. In a storm, use headlights on low beam and let your taillights signal your presence to vehicles approaching from behind—gentle touching of the brake pedal will flash them.



Sometimes the sensible thing to do is sit tight and wait for the snow plow.

Here's why tires have tread—to provide traction on **wet** pavement. Bald tires float on the water and lose contact with the pavement. It's called hydroplaning. Treaded tires maintain traction by channeling water through the tread grooves to maintain the contact with he pavement. Slow down on a wet road!

system is okay. But if the pedal gradually sinks to the floor, there's a hydraulic leak somewhere.

If your car has power brakes or vacuum-assist disc brakes, this check should be made both with the engine running and with the engine off. When doing the test with the engine off, pump the brake pedal six or eight times to release the vacuum before holding the pedal down.

Any uneven pulling to one side calls for a brake inspection. It may be just a case of uneven tire pressure, but pulling can be a symptom of problems. Uneven braking on winter's slippery surfaces will cause handling problems.

TIRES

For years the tire industry generally has recommended against mixing of tire types, profiles, and sizes on the same vehicle. Because of recent studies, the industry is lately taking a much firmer stand against mismatching and strongly recommends that owners stick to the equipment originally specified by the manufacturer. The reason is that gross mismatch of tires has been found to cause much more serious handling problems than previously believed.

In line with this, remember that if you have a new car that came with radials, or if you have replaced your conventional tires with radials since last winter, then you can't mix your old snow tires with the radials. The driving characteristics of radial tires are so different that it is actually dangerous to have radials on the front wheels and bias-ply or bias-belted tires on the rear wheels. Radials are built in such a way that when they are turned they immediately assume the new direction. If the snow tires on the rear are not radials, the risk of slipping and causing a skid is much increased, and you will have unstable handling and fishtailing. So the rule is: radial tires call for radial snow tires.

People still like to argue about the effectiveness of the radial tire on snow and ice. Generally speaking, no state recognizes radials as approved snow tires except Maryland specifies Michelin radials are okay on emergency snow routes. (The driver must be able to show a certificate from the manufacturer stating the tires are Michelin radials.)

While the radial provides better traction than the nonradial on packed or shallow snow, it cannot perform in deep snow like a winter tire can. So if you really needed snow tires before you switched to radials, you will still need them. Don't expect miracles from a snow tire, however. While they are good help on loose snow, they won't do anything for you on ice.

Studded tires are great on glare ice but many drivers put too much confidence in them. They merely provide some traction on some slippery surfaces. They provide less traction on other surfaces —such as the bare or wet pavement that you drive on a lot of the time even in winter.

Studded tires are banned or restricted in some parts of the U.S. and Canada because they cause pavement wear. Most states that allow studded tires have deadlines for their removal in spring, between March 15 and April 1 depending on the state.

Check your tires now with an eye to what type of winter weather you're facing. If you are low on tread, don't put off getting replacements, even if it means some tight budgeting. Both regular and snow tires should be replaced when the tread depth reaches one-sixteenth inch. (Measure depth with the top edge of a penny. If you can see the top of Lincoln's head, replace the tire.)

Contrary to popular belief, lowering the air pressure below normal in your tires does not increase traction for starting and "holding the road." Don't do it!

CHAINS

Reinforced tire chains still remain the best traction aid for deep snow or glare ice. They can reduce your stopping distance as much as 50 per

continued

(above)
If the wheels dig into snow, rock the car out—don't spin the wheels. The key to rocking is keeping the rhythm going. Keep the wheels straight ahead and shift from forward to reverse just before each rocking movement begins.

(left)
Carbon monoxide poisoning is a danger for occupants of a camper unit while the vehicle engine is running. Be sure the vehicle tailpipe length is adequate to bring exhaust out from under both truck and camper and that the exhaust system is leak-proof.

(right)
If you care about fuel economy, don't let snow and ice build up on your car. A really heavy accumulation can weigh 700 pounds or more and put a strain on the suspension system, too. A considerable amount of salt is usually mixed with the slush packed into the wheel wells and can cause severe corrosive damage if left all winter.

CHILD PROTECTION

If you have a child under four years old and haven't bought a specially designed safety seat for him, now is the time, before ice and snow increase the chances of skids and crashes. Such a seat not only keeps the child from striking the car's interior in a crash but also distributes the forces of collision around his body, lessening the possibility of injury. Ordinary safety belts might keep a child from being thrown into the dashboard or windshield, but they also can do heavy damage to his soft, under-developed bone structure and rupture vulnerable internal organs.

Every child seat now on the market must meet U.S. Department of Transportation Safety Standard 213, issued in 1971. As we go to press with this issue, DOT is about to issue more comprehensive regulations which call for simulated crash testing of child restraint systems. Seats are now on the market which already meet these new requirements. Read the labels to see what you're getting. Motor vehicle accidents are the leading cause of death for children.

continued

THE BIG FREEZE IS COMING

cent. So the practical winter driving precaution for most people is to replace worn tires with conventional treads and use lug-reinforced tire chains when they are needed. Even snow-tire users are wise to keep a set of chains in the trunk for really bad road conditions. Just be sure your chains are the proper size. If they're not, you'll cause yourself some real misery trying to get them on in the snow.

If you have to install the chains while on the road, pick a level spot to park and be sure you're a safe distance from passing cars. If you go into ice and snow areas only occasionally for skiing or other recreation, you might want to rent chains rather than buy them.

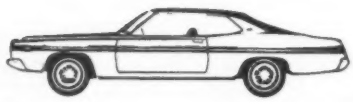
OTHER ITEMS

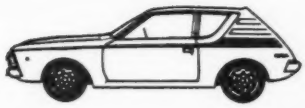
Make sure that your heating-defrosting-defogging equipment is in first-class order and that you know how to operate it to fullest advantage. You'd be surprised how many drivers don't know. There's no need to drive around with fogged or frosted windows in today's cars. Check the owner's manual.

In freezing weather you'll need an anitfreeze solution in your windshield washer. Don't use the radiator kind — it can damage paint. And don't take a chance on too weak a mixture. A test in the driveway may not tell the story. When you're driving, the airstream will evaporate antifreeze quickly, and evaporation takes heat from the water and glass. You don't want a blinding sheet of ice at traffic speed.

It's especially important that your wipers are in good condition. The blades may have dried out in the summer heat and cracked the rubber so that they streak the windshield Even good blades can't do a job if the arm tension is too loose.

With your car properly winterized you've gone a long way toward assuring comfortable and safe driving. But there are techniques for driving in bad weather that can be a big help to you, especially if this is your first experience driving in a cold climate. Next month we'll talk about getting the feel of the winter road, staying out of skids, and taking care of yourself if you're stranded.





Seat Belts MYTHS

During the next year, restraint systems will fail to save thousands of lives, fail to prevent millions of injuries, and fail to reduce personal financial loss from accidents by billions of dollars. Why? Because people won't be wearing them at the time an accident occurs.

If every driver and every passenger used the belt-harness system everytime they got in a car, 15,000 American lives would be saved every year. Restraint systems are standard equipment on cars. So why doesn't everybody use them? Here are some of the reasons people give. None of them are true.

MYTH

Belts don't really help. In a bad accident, you've had it regardless.

FACT

Restraint systems save lives everyday. The fact is that wearers of the seat belt-shoulder harness system are not likely to be involved in a fatality at speeds below 60 mph.

MYTH

I might be saved if I'm thrown clear of the car.

FACT

The probability of death is *five times greater* if you're thrown from the car. There is almost no situation in which people are not better off inside the vehicle. The forces in an accident are far greater than most of us can imagine. People ejected from automobiles are flung 40 or 50 feet, sometimes as far as 150 feet. Whether the distance is covered through the air, scraping along the ground, or both, the human body is just too frail to take it. If a car door springs open during the accident and a person falls out, the car may roll over and crush him. Despite any emotional fantasies about being thrown clear, sheer common sense—and a great many studies — say it's much better to remain in the car.

MYTH

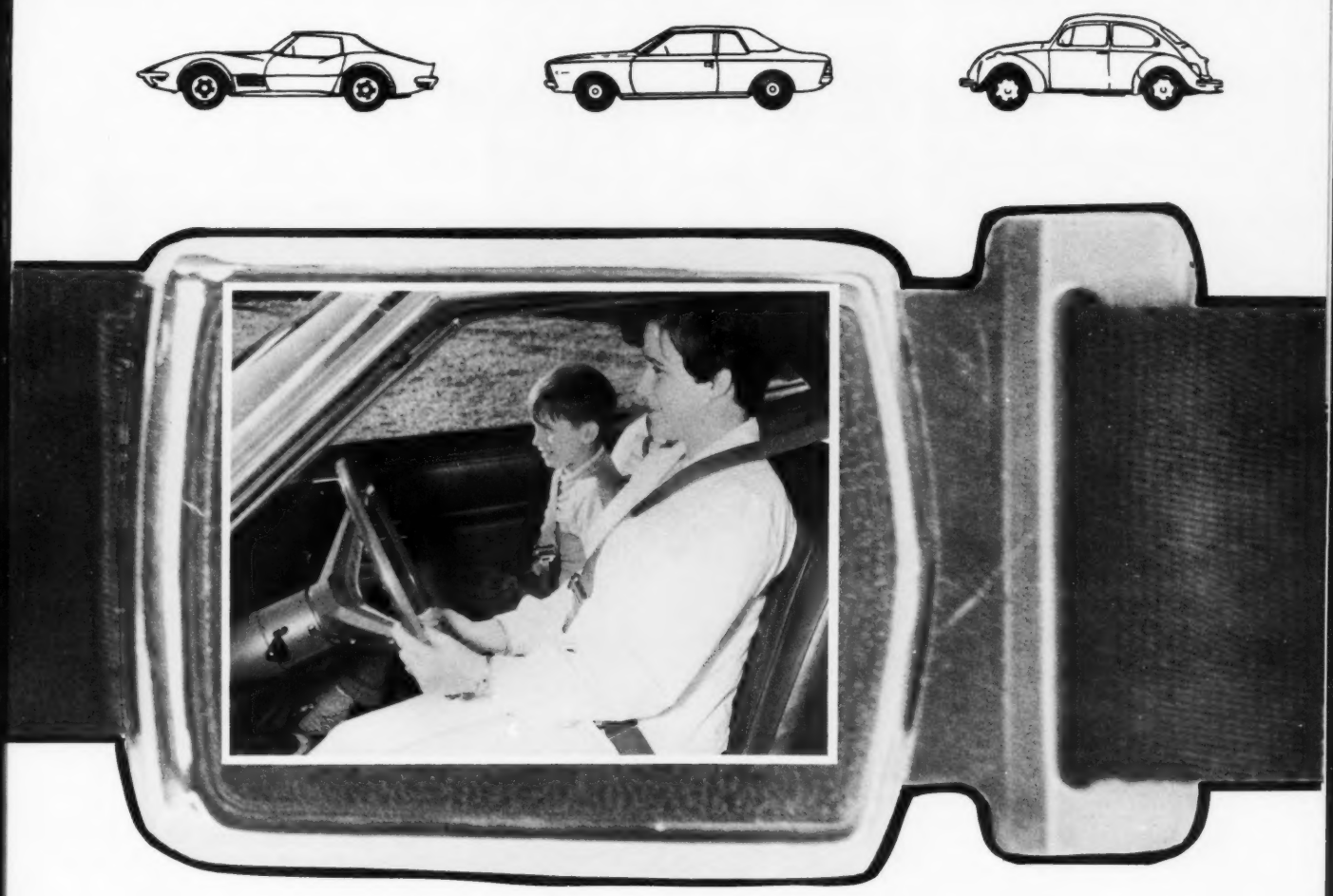
I am better able to make quick responsive maneuvers to avoid a collision if I'm not restrained.

FACT

When a driver is belted in, he is much better able to maintain control of the vehicle. Taking a corner too fast can throw the unrestrained driver off balance. So can hitting a foreign object in the road, sideswiping a parked car, or simply sneezing hard a couple of times.

MYTH

The restraint system can trap me in a burning or submerged vehicle.



FACT

Unless you are restrained, you are likely to be dazed or stunned by the crash, increasing the time it takes to get out of the car. Belted in, the driver and passengers are more likely to be unhurt, alert, and capable of getting out quickly. Therefore the restraint system will speed up, rather than slow down, the escape.

Fire and submersion actually occur in less than one-half of one percent of all serious accidents. If you include the less-serious accidents—the fender benders — the percentage is even smaller.

MYTH

Lap belts are okay but the shoulder harness can break your neck.

FACT

The single-point seat belt-shoulder harness systems on many newer cars use inertial harness retractors which allow for proper fit and complete freedom of movement while worn. The vehicle-sensitive movement is activated automatically when the force of collision occurs.

The standard shoulder belt must be adjusted for safe and proper fit. It is propertly adjusted when you can fit your clenched fist between your breastbone and the belt material.

Injuries caused by belts are slight in comparison with injuries suffered by persons *not* wearing belts *in the same accidents*. Better a bruised shoulder than a fractured skull.

People offer a lot of other trivial reasons for not using restraint systems, such as

- they aren't comfortable
- mess my clothes
- are too much trouble
- are worn only by dull, old people
- insult the driver if you wear them
- slip my mind

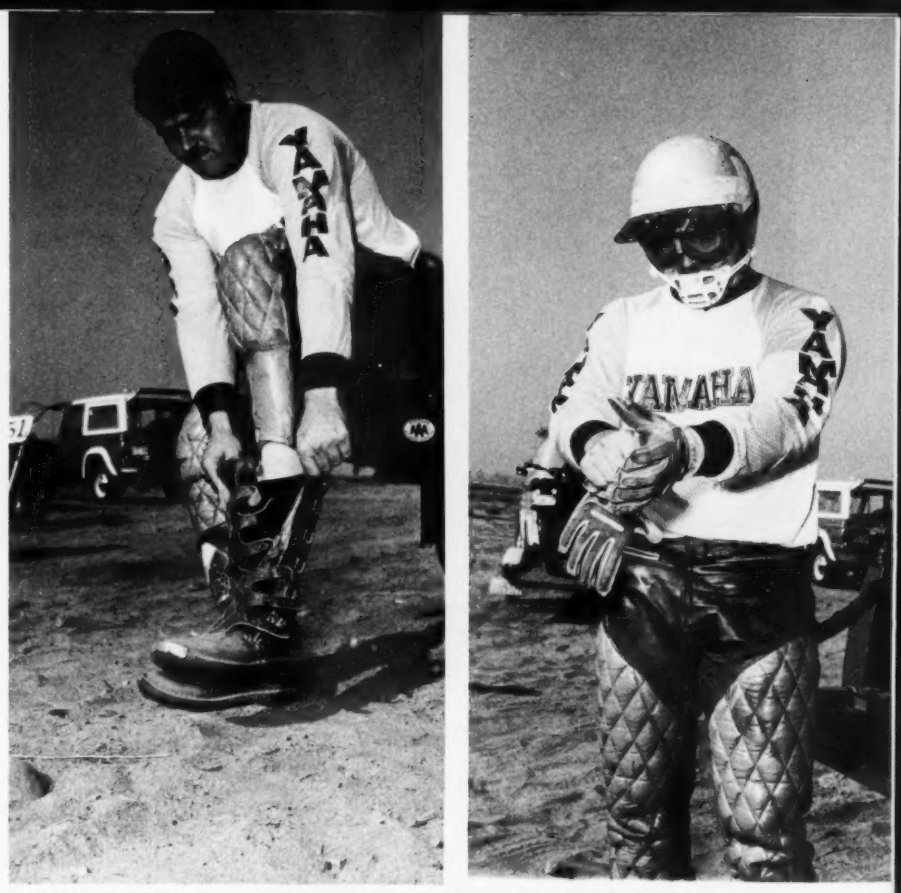
These are emotional reasons, not backed up by thoughtful judgment. If you've been known to use such excuses, take a minute and ask yourself if they make any sense.

Off-road basics for the newer motorcyclist

A DAY IN THE DIRT

DRIVER

It doesn't really matter where you're going—to the desert, to the mountains, cow trailing, whatever; most of the time it's only necessary to know you *are* going. To know on Friday night that early Saturday you'll be wheeling along, breathing fresh air, and not competing with drivers who are not aware that motorcyclists even exist. You are a *motorcyclist!*



An astronaut? No, just a well dressed off-road rider. Sgt Paul Ingels, 1965 Comm Sq., uses gloves as well as heavy pants, long sleeve jersey, helmet, goggles, and chin guard. Boots like those shown here cost money, but they really do protect your feet and ankles.

RIDER PREPARATION

If you aren't in good physical condition, you shouldn't attempt to ride 50 miles your first day out. Fifty miles isn't much on the street, but on a bumpy road or cow trail, it can be murder on your unseasoned bod. Jogging is a particularly good form of physical preparation because it helps your wind. Squeezing rubber balls will help get your hands and forearms ready for a long day of clutching and braking.

If you are in good shape, how about adding a little something to enhance your chances of staying in shape . . . protective clothing. By now, we all know about approved helmets, but have you ever thought what would happen if you unload in a patch of . . . well, it can be darned uncomfortable.

However, if you were to invest some of your hard earned coin on a suitable leather outfit, you may thank yourself when you discover rips in the pants knee rather than your own knee. A good outfit—pants, jacket, gloves, and high (enduro type) boots —will set you back about 100 bucks but will give you a million dollars worth of protection.

ARE YOU READY?

Once you've ridden the terrain slowly to get to know little things about the area (like where the mine shaft is, or the location of that grass-covered barbed wire) and you are properly dressed, it's off to the boonies, right? Well, not quite . . . If you've ever had the thoroughly appalling experience of charging along a cow trail and seeing your rear wheel roll by while you and the bike come to an abrupt halt, then you are aware it takes a little work in the bike preparation department in order for you to really enjoy your day in the dirt.

IT'S THE LITTLE THINGS

Two things should come immediately to mind when you think "off road." One is lubrication and the other is nut and bolt security. A broken or thrown chain is no fun, certainly not when you're out in the boonies. Most good desert riders lube the chain once per riding day, and woods riders won't go more than a weekend without it (unless they're crossing streams, then it's once a day). Dry chain lube compounds are best for the desert, while the liquid types are suitable for the woods. Don't forget to check and see that the chain guard is properly adjusted, because it can keep branches or fence wire from throwing the chain off the rear sprocket.

Control cables need lubrication, too. The interval is up to you, but be aware that the clutch cable needs the most, closely followed by the throttle and brake cables. A stuck throttle return or snapped clutch cable at the wrong time can really ruin your day.

Prior to each riding day, you should check all nuts and bolts. Insure that all engine bolts are properly torqued. Inspect the swing arm pivots and both sets of axle bolts or retaining nuts. Check handlebar and control lever mountings (a little trick—adjust the lever mounting bolts so the levers just hold the position you want; if you fall, the levers will pivot on the bars and won't break). If you use

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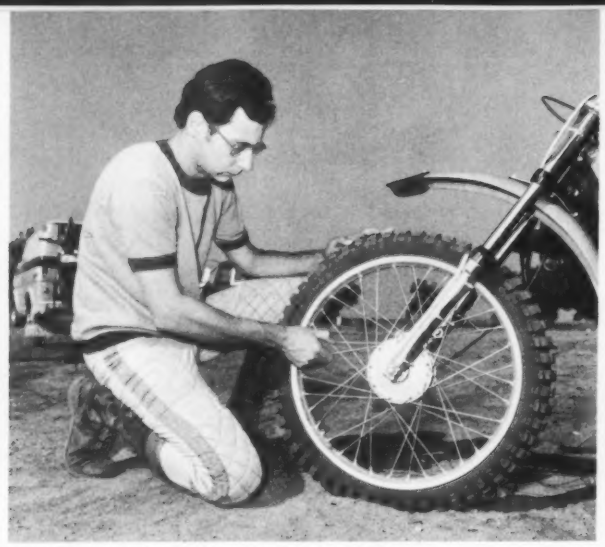
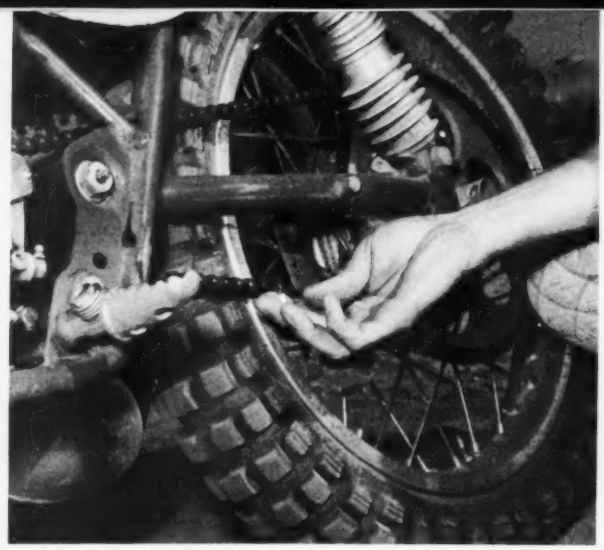


SSgt Don "Stormy" Stormoen, 1835 EISQ, checks spoke tension prior to a days' ride. See how the spokes are safety wired together? This will keep a broken spoke from flopping and possibly puncturing the tire or jamming in the fork.



Chain tension is important. A too-loose chain can be easily thrown off, injuring the rider or damaging the engine cases. If it's too tight, it can heat up and seize. Don't forget to lube the chain prior to each riding day.

continued

A DAY IN THE DIRT

aircraft-type safety wiring or a chemical (LOCTITE or similar product) on the nuts and bolts, then you can make quick visual checks of parts security, instead of mechanically checking them.

ASSORTED TRICKS

- Use only heavy-duty tubes and tire liners.
- Safety wire the spokes together where they cross; this will keep them from flopping around if one breaks.
- Use some wire solder to balance the wheels.
- Check with your dealer to see if he recommends using ATF (automatic transmission fluid) in the front suspension. Many dealers approve of this if you plan to spend a lot of time off-road.
- Remove or tape over the headlight and directional signals.
- Always carry spare throttle and clutch cables. The easiest way to do this is some evening when you're lubing the cables, run the spares parallel with the originals. Most of these cables run under the fuel tank and it's easier to run them in a cool

Throttle cables need love too! Check yours for proper operation. If it doesn't return easily, it may need lube. Throttle slides in carburetors have been known to be burred too, so don't forget to consider that possibility.

Extra tools (see article) such as this plug wrench, can come in mighty handy. Also note plastic stone guards on the fork legs. These legs are made of fairly thin tubing and flying stones can dent them, causing the fork leg to hang up internally.

Safety wire or a loctite type product on nuts and bolts will keep all those bits and pieces where they belong. Note approved spark arrestor/silencer.

Stormy gives the air cleaner the once-over. Foam types are easily cleaned, while most factory equipment air cleaners are paper and must be replaced . . . an expensive proposition when you consider how often they need it.

garage than under a broiling sun. Tape the cables together in two or three places, then if you break one just swap cable ends. It's a lot easier to do this than to try and reroute a new cable around a hot engine.

TAKE-ALONGS

Extras are always nice to have handy. Besides, it's a fact of life that you only need them when you don't have them! A spare master link and chain breaker are valuable. So are spark plugs, ignition wire, common size nuts, light bulbs, safety wire, and a small tool assortment.

A five-foot length of duct tape can be wrapped around the handlebars or a frame section, and can be peeled off as needed to resecure those bits and pieces that generally seem to fall off in the woods (license plates, batteries, etc.). A small tube of silicone sealer can be a life-saver, too; it'll seal oil and tire bead leaks, insulate wires, and in general will do one-thousand-and-one things unique to dirt bikes.

If your bike uses some parts that are not common among makes, pack spares of these along, too (for example, throttle cable bushings for a 450 Ducati Desmo . . . don't expect your buddy's Honda bushings to fit!)

IT'S UP TO YOU

If you want to take your box-stock bike into the boonies, you should be prepared to either do some trail-side repairs, or even worse, walk out. A little time spent in bike and rider preparation can pay huge dividends in terms of saving cash, grief, and time at the side of the trail. If you're gonna do it in the dirt, do it right.

If you replace the stock steel fender with a plastic one, or if you delete it altogether, consider installing a fork brace like this one. It stops the forks from flexing laterally, and helps keep them aligned in the event of a crash.

Foam padding on a cross bar can help prevent injury in case of a sudden stop or an "endo." Wrap extra duct tape around bars and store a length of plastic tubing for gas siphoning inside the handlebars.

Did you hear that? Rattles and squeaks in the car can annoy and distract the best of drivers — and so set you up for an accident

A gentleman in southern Arizona recently took delivery of his new car, only to find that it had a rattle. The dealer could not find the source of the noise, nor could a local mechanic. Then the owner noticed something odd . . . the rattle continued even though the car was not running. A thorough search of the car revealed 3 feet of very upset, very hungry Arizona rattlesnake!

We hope this never happens to you, but at one time or another we've all had a car with rattles, squeaks, clunks, or thumps. Don't despair though, most of these strange noises can be corrected. And while you're at it, you'll learn a lot about the condition of your car, and be able to schedule important maintenance.

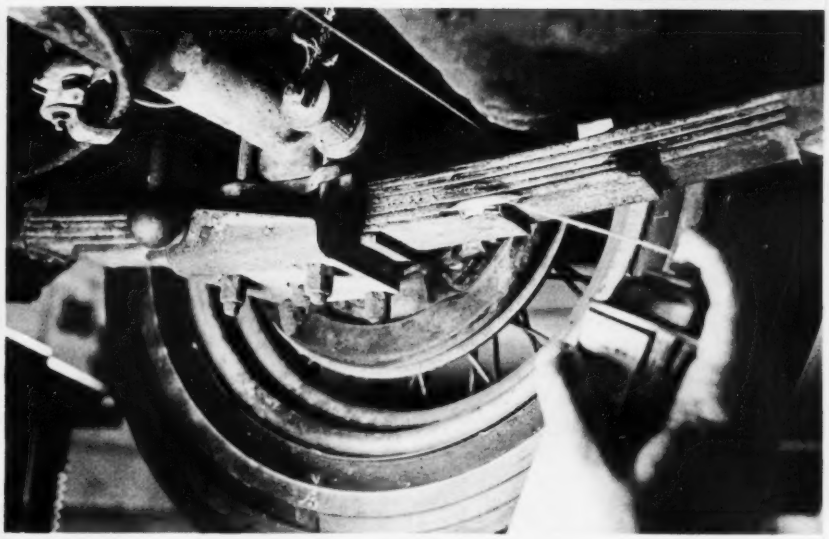
In order to rid your car of unwanted noises, you'll first need to get tools and materials. A set of sockets and a rachet handle will be necessary, along with a stick of stainless silicone lubricant and a can of spray silicone lubricant. Don't bother to get regular lubricating oil because it will cause rubber fittings to deteriorate; and besides, silicone lube will last longer.

SQUEAKS

The stick silicone should be applied to all hood, door, and trunk

continued

AKS and RATTLES



Leaf springs can often be the source of squeaks. A generous spray between the springs with spray silicone should eliminate noise from the area. On this MGA, loose spokes in the wire wheels can rattle, or at low speeds, creak like a door in a scary movie.

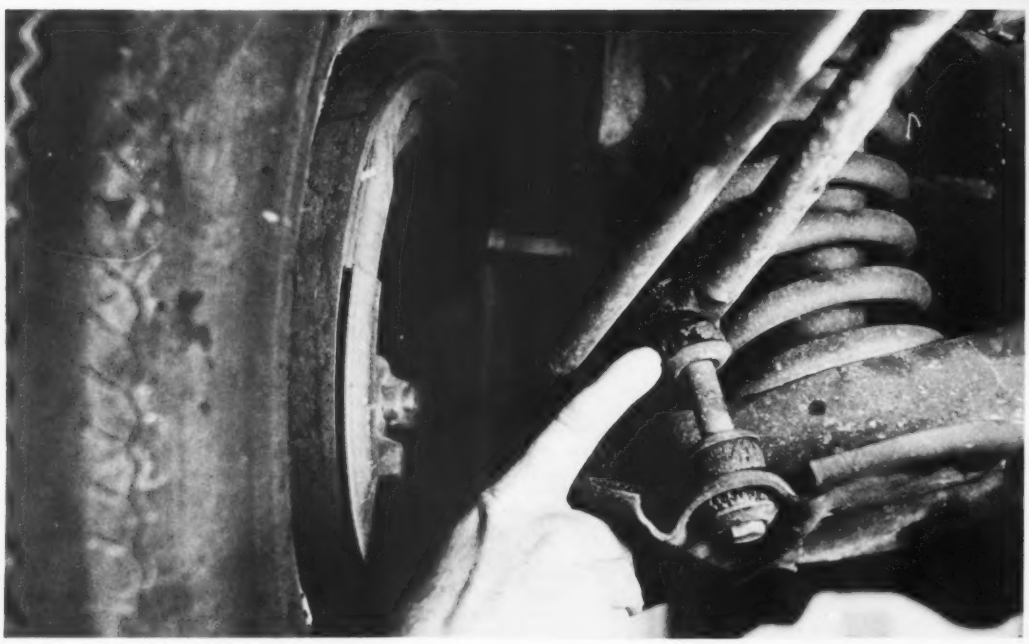
(left)
One of the benefits of trying to locate a squeak or rattle is that you find out a lot about the overall condition of your car. We borrowed this '69 model for the photos and when we showed the owner this picture he was unnerved to know he was driving around with his car in this condition.

hinges. When you're under the hood, check fluid levels, battery and connections, belts, and general engine-room condition. Use stick lube for glove box latch and hinges as well as the trunk lock latch linkage.

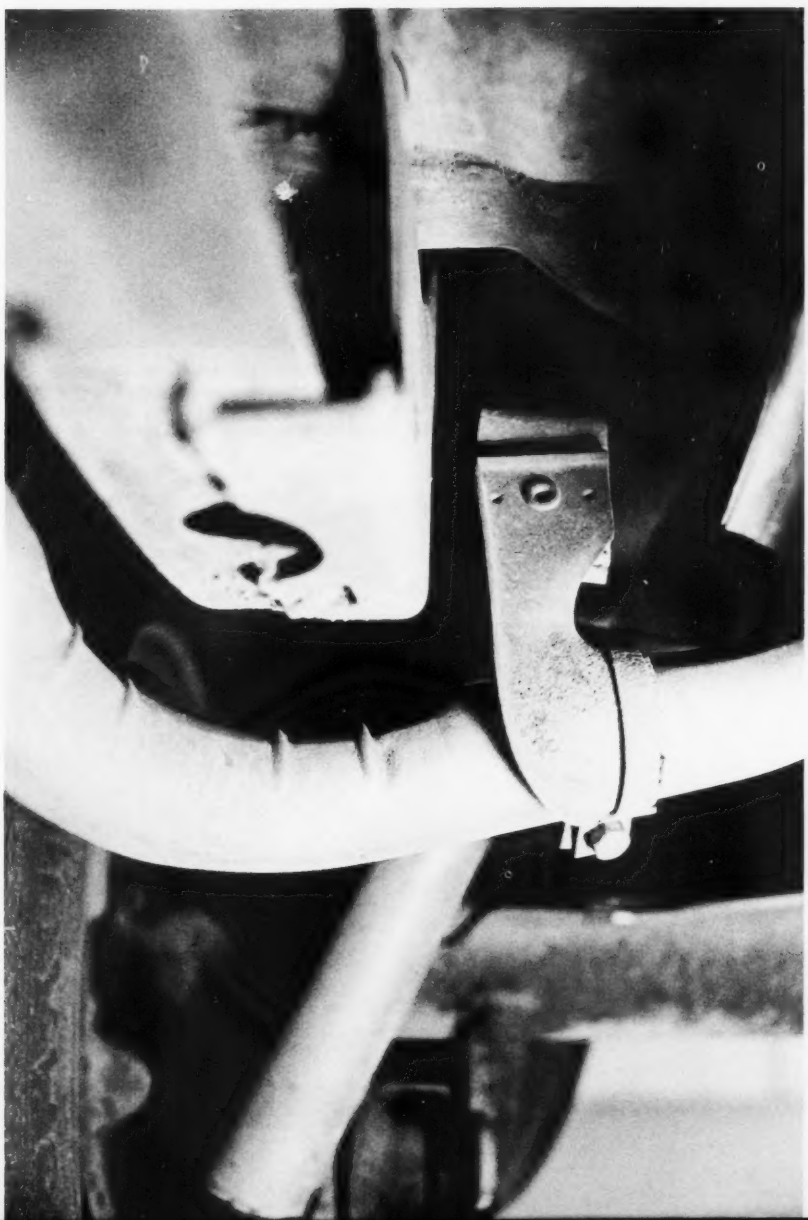
The spray silicone can be used on door and trunk seals and on any weather stripping. Spray it on rubber bushings such as shock absorber and A-frame bushings. Seat back latches and hinges should get a spritz. Don't forget to treat the rear leaf springs with a liberal dose, too.

Door or hood misalignment often causes squeaks. Check to see if mating surfaces are flush and gaps between panels remain constant along their length. Chrome moldings provide a good visual reference of alignment along body sides and doors. If the doors sag or are out of alignment, consult your service manual before attempting to adjust the hinges.

(right)
Upper control arm (A-frame) bushings get a good squirt. Check for noise from these bushings by opening the hood and pushing down on the fender several times. Noise coming from these bushings is different from noise. . . .
. . . caused (below) by worn anti-roll bar bushings. While the control arm bushings may cause a squeak, worn sway-bar bushings have a metal-to-metal grind. Besides the noise, which is irritating, worn sway-bar bushings can adversely affect handling and cause loss of control on bumpy or curvy roads.



Rattles and clunks coming from the rear part of the car can be caused by loose or improperly routed tailpipes. This pipe was run too closely to a body brace and even though the exhaust system was secure the pipe was still able to move 1/4-inch and bang against the brace on bumps or hard left turns.



Tailpipes and muffler clamps are responsible for a share of noise too. This pipe hanger had one rivet rusted away and allowed the pipe to rattle against the chassis. Rubber mounting straps sometimes deteriorate due to age and/or heat and will allow much more play than a new one.

RATTLES

Before trying to diagnose a rattle, remove all loose items from the car. Empty the glove compartment and trunk, and check to see that the jack, spare tire, etc, are stored securely. Drive along a bumpy road at moderate speed and perk up your ears.

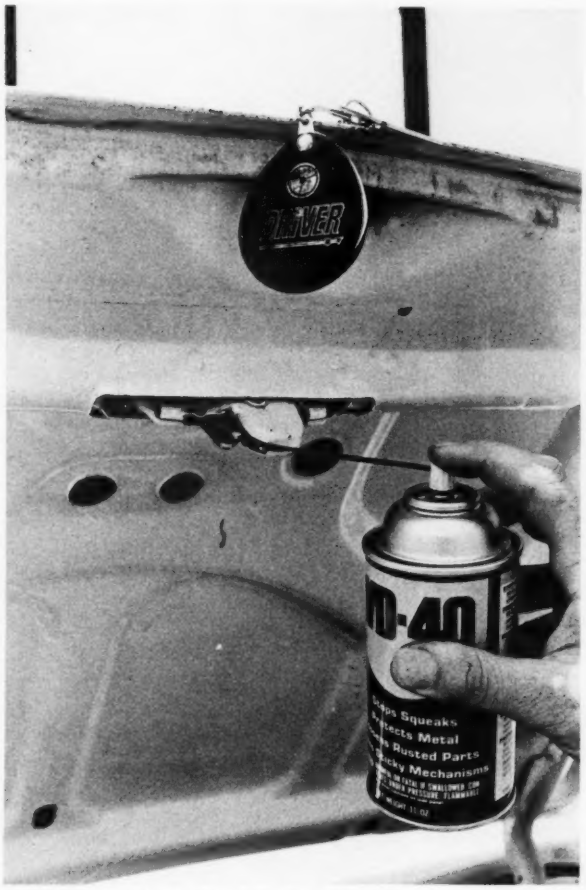
If the rattles are coming from the area of the grille, bumper, or fender, chances are there may be some loose mounting bolts. These body bolts are easy to get at by raising the hood or reaching up in the wheel well to the fender lining area. With your socket wrench, tighten all accessible bolts. Also tighten all bolts or screws on the door, hood, and trunk hinges. If hood noise persists, check the two rubber bumpers on top of the grille. They should be in firm contact with the hood when it is closed. If they're not, adjust them by turning them counterclockwise in small increments.

If the rattle seems to be coming from a door, partially open and close it with a quick swinging motion: something may have fallen into the recess between the metal and the interior trim.

continued

Squeaks and rattles up front? Check the hood snubbers. These little rubber-topped bolts are located on top of the grille or radiator housing. If they don't make contact, the hood can bounce and rattle. Also check the hood latch.

Give all rubber bushings a squirt of silicone. When doing the rear shocks, make sure the overspray doesn't get into the rear brakes. If the plastic brake adjustment covers are missing, spray can get into the assembly and cause erratic braking action.



All latches need lubricant, not only to keep their internals from squeaking, but to keep them functioning. Trunk, doors, hood, glove box, and seat back latches all need the treatment.

CLANKS AND CLUNKS

Noise coming from the chassis near a wheel may mean some part of the suspension assembly is loose. Check and tighten shock absorber mounts, A-frame mountings, steering components, and anti-roll bars. Coil spring retaining devices may be loose, allowing the upper or lower end of the coil to shift.

If the noise comes from amidships, the most common culprit is the exhaust system. With the car on a lift and the exhaust system cool, tighten all clamps. Wiggle the muffler and tail pipe. If they move so much that they contact the chassis, you should install extra mounting clamps or replace the muffler. While you're underneath the car, check the condition of emergency brake cables, fuel line, and fuel tank. Also, inspect seat belt mounting bolts for corrosion.

Following these tips should solve any unwanted noise problem. If it doesn't, it probably means a disgruntled factory worker in Detroit put a pop bottle in the rear fender as the car was being assembled. We'll cover that little problem in a future Backyard Mechanic article entitled "Body Work; Cutting and Welding"!

(left)
One of the prime sources of squeaks is weather stripping. Spray this or a similar preservative lubricant on door and trunk seals. Don't forget the window stripping either. If you've got a squeak inside the car it may be the dash padding or the dash itself. Rattles inside may come from loose radio, steering column, or brake pedal mountings.

(right)
Ever notice how some people get really upset about even the smallest squeak or rattle? This guy is the Vince Lombardi of the squeak and rattle set! He just won't settle for anything less than perfection. Note the look of concentration . . . just wait 'til he finds out he could have done it much more simply merely by reading DRIVER!

What Octane?

The principal measure of gasoline quality is octane rating, which indicates the ability of gasoline to prevent knocking in the engine. There are two methods of determining octane rating: "research" and "motor."

The better known is the research method, the one used in most auto owner's manuals. But the Federal Energy Administration has chosen to allow gasoline retailers to use an average of the two methods, resulting in a number of four below the "research" rating.

And so many motorists wind up buying higher octane than their cars need. Since 1971, almost all new cars have had engines designed to operate efficiently on sub-regular gasolines, which average about 91 octane by the research method but which are listed 87 at many fuel pumps averaging the two methods.

Extra octane is simply wasted along with its extra cost, which is estimated to total more than $1 billion a year.

The 491 samples of this third grade gasoline tested last summer averaged 92.2 octane. Few samples ranged more than one point higher or lower, indicating no significant difference between brands.

To find out if you are buying excessive octane, try a lower grade and see if your engine pings. If not, your savings have begun.

Night Safety for Two-Wheelers

Attention street motorcyclists . . . want to avoid that rundown feeling? A major tire manufacturer has a new tire that may be part of the answer. They're called GLO WALLS and they really do work. A strip of reflective material is molded right into the sidewall of the tire and tests show they're visible up to a block away. They appear to be just the ticket for nighttime riding. They come in most conventional tread patterns and the cost will not be much above that of a regular tire. The tire, coupled with reflective tape on gloves and helmet, should aid in your "conspicuity" and

could help you and an automobile driver avoid an accident. Goodyear tells us that GLO WALLS are available for bicycles, too.

Who's Old Enough?

The New Hampshire Traffic Safety Commission is backing proposed legislation that would repeal the 18-year-old drinking law and return the minimum legal age for the purchase of alcohol to 21 because of the rapid rise in alcohol-related deaths among 18-, 19- and 20-year olds.

Attention-Getter for Drowsy Drivers

An "attention level analyzer" that can alert a drowsy or day-dreaming driver to the potential danger of his mental condition has been developed by a U.S. Naval Academy management professor.

About the size of two cigarette packs and weighing less than a pound, according to inventor Karel Montor, the device emits a shrill beep when the driver's attention strays momentarily or a constant whistle if he wanders off completely. Conceivably available for installation in both autos and airplanes within the next decade for about $250 each, the electronic warning signal resulted from the Annapolis instructor's hobby of brain-wave analysis.

Ford Timing Marks

The timing mark and pointer location have been moved for 1975 Ford and Mercury cars with 351M and 400 cid (cubic inch displacement) engines equipped with air conditioning.

Timing can be checked by sighting between the water pump and front cover and over the edge of the power steering bracket. Relocation of the marks was necessary to provide better visibility due to the location of the air conditioning compressor in the manifold valley.

On all other 351M and 400 cid engines the timing is checked by sighting from the right side of the engine in the usual manner.

Snowmobiles...

like almost everything else, are fun if used carefully. With another winter almost here, those among us who are snowmobile nuts are rarin' to go for some frigid fun.

The best way to get into snowmobiling is to join a reputable snowmobile club and find out what it's all about from some experienced members. Always ride with someone else, dress for the ride, and ride sanely.

If you're thinking about getting into snowmobiling, watch upcoming issues of DRIVER; we may be able to give you some useful info on making the transition from a plain snow lover to a dyed-in-the-wool, red-nosed, snowmobile person.

About Miss DRIVER

Tiny Brenda Wagner was born in England, raised in Virginia, and attended high school in California. She holds several beauty contest titles and pursues interests in sewing and interior decorating. Brenda says, "Driving should be thought of as an art, not just a fun pastime." Who could say it better?

MISS DRIVER

BRENDA WAGNER

"You don't have to be a super-wrench to keep an eye on the condition of your car. It's easy to use a guage to check for proper tire inflation. While you're doing that, look at the tread. Is there plenty of it? Are the tires wearing evenly? If not, a wheel alignment or new shocks may be in order. Raise the hood and check around. How about the condition of the belts? Are the water and oil levels OK? Is the battery full and clean? The whole inspection takes only a couple of minutes and you don't even get dirty."

DELCO
NACIONAL
1975
META
CARTA BLANCA
346

Motorcyclist Magazine calls Bruce Ogilvie "One of the guys who puts more into motorcycling than he gets out of it."

KING OFF THE ROAD

Bruce Ogilvie, winner of the 1975 SCORE/Baja 500, gives DRIVER an interview and some tips on safe riding

Q. *When and how did you first learn to ride?*

A. I learned at 14, I'm now 22. My Dad's been racing for 20 years and we'd always go out with him to the desert. One day, a friend had a 250 cc along and they convinced me to ride it. It took a lot of persuasion because I was pretty scared.

Q. *When did you decide you wanted to race?*

A. Well, I rode for two or three years until I felt I was ready to race. My Dad never pushed me into it like you see so many fathers do today. He just said, "If you want to race, that's great, but don't feel you have to just to please me." He's really got a great attitude.

Q. *What kind of events did you start out riding?*

A. I rode mostly scramble events on TT tracks for 2 years with an occasional desert event thrown in for balanced experience. I really like the desert better now. I seem to do better when the courses are rougher. There's not so much emphasis on your equipment being fast; it's more skill than anything else. You don't have to have the fastest bike to win in the desert. You just have to outride somebody to win.

Q. *What does it take to have a winning desert rider/bike combination?*

A. Well, you really have to have a good strong running, reliable bike — a bike that's gonna be running as strong at the finish as it did at the start. The bike and rider will go out for 40 or 50 miles of practice on Saturday, and then race 100 miles on Sunday. The bike's gotta be bulletproof.

As far as the rider is concerned, it doesn't make any difference if he's a novice or a pro; he's still gotta be around at the finish. I think jogging is the best exercise there is. It really helps your wind and'll greatly increase your endurance. You gotta work at it though, just running a mile won't hack it. If you get tired running one mile, go on to two, and so on. Desire is the key. And something to remember, if you never finish, you never win!

Q. *Speaking of winning, how was Baja?*

A. It was great. My partner, Larry Roeseler, and I finished first in the 250 cc class, first overall bike, and

continued

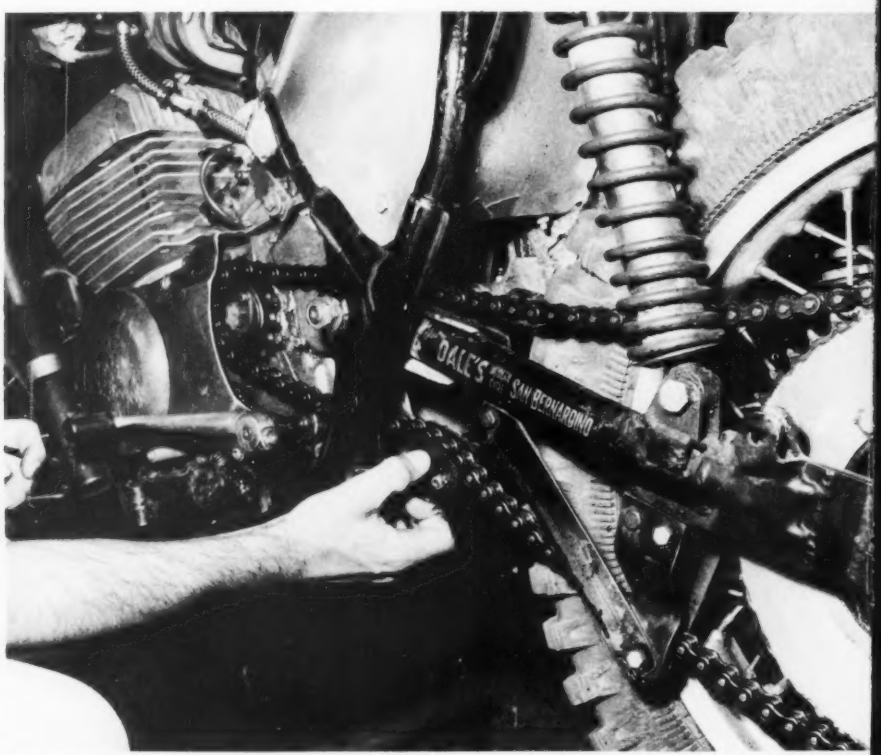
(left)
Harley mounted Bruce Ogilvie led all Baja Competitors into the finish.
Photo courtesy of CYCLE NEWS

"I really like the desert. I seem to do better when the courses are rougher. There's not so much emphasis on your bike being fast . . . it's more skill than anything else."

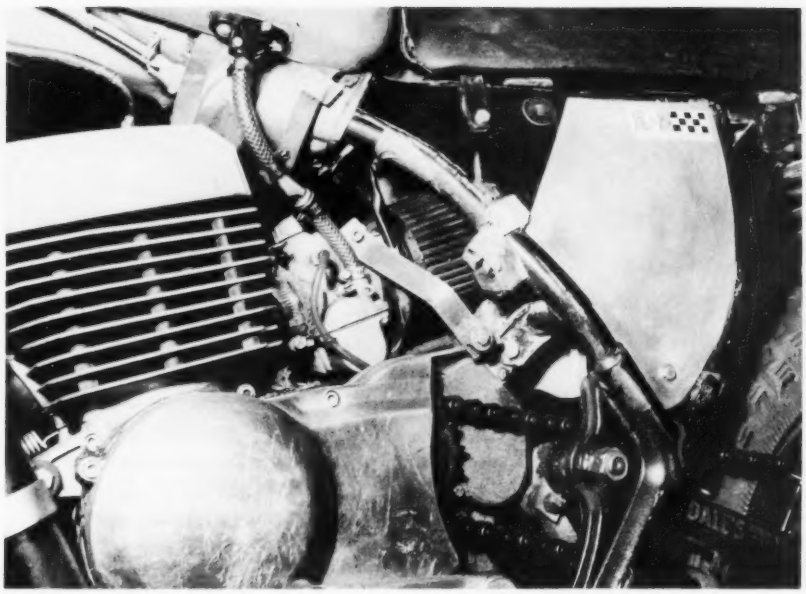
"Well, let me tell you friend, if you pitch yourself off onto a rockpile, you're not gonna hurt the rocks!"

"Hey, if you're gonna ride, you're gonna fall. That's why helmets and protective equipment are so important."

Bruce points out the modified shock mounting. The bottoms have been repositioned an inch forward of stock. The upper mounts are moved forward 4 inches. The increased shock angle allows more swing arm movement and lets the bike handle better in the "whoop-de-doos."



Because of the increased swing arm movement, a chain tensioner is necessary. This one bolts to the swing arm. Also note the sturdy chain guide and the exposed countershaft sprocket. With the engine case cut this way, sprocket changes are fast and easy.



Designed with reliability foremost in mind, Bruce's bike uses components of the best quality. The braided fuel line is sturdy, as is the handmade carburetor brace. A chain breaker, extra chain links, and a spare fuel filter are held on by silver tape.

second overall. Our time was 8.16.53. The second bike to finish was over 13 minutes behind us so I guess you could say we had a good day. Also, the second place guys were riding a 400 cc open class bike; we really felt good about beating them with a 250.

Larry rode the first section. He did that because in the past he's been slated to ride the second section but his partner usually crashed and he never got to ride! It worked out good this year though. He was the 30th bike to start and when he turned the bike over to me at Camalu, the halfway point, he was first. All I had to do was keep us there. We had very few mechanical problems and that helped, too. Larry broke a footpeg and the rear brake was dragging and seized, but we were able to fix them at the mandatory half-hour downtime at Camalu.

My section didn't present too much trouble and I did the section from Camalu to Mikes' Sky Ranch in record time. One thing kind of interesting did happen though; after the race my pit crew told me that they had removed a single strand of neck-height barbed wire from a gate just before I came stormin' through. I usually leave myself plenty of "oh-oh" room, but that wire really could have ruined my day.

Q. *Did you pre-run the course?*

A. Oh yeah. Three times. No matter how good you are, you just can't ride an area cold and expect to come out in one piece, let alone win. Riding an unknown area has been known to hurt a few people.

Q. *How do you feel about street riding?*

A. I don't like to do it. There are too many unknowns. I've seen too many of my friends get dinged by some turkey pulling out in front of them, or changing lanes suddenly. I think if you're gonna ride the street, you should use your headlight. It's super cheap insurance.

Q. *How about helmets?*

A. *Ask* me about helmets! I know how easy it is to fall off your scoot. I think it's kinda silly not to wear a helmet.

Q. *What does it take to be a safe rider?*

A. Don't ride over your head. It's painful and those knobbies leave terrible bumps on your forehead. Seriously, though, don't ride in a manner beyond your capability or experience. You've got to use your head. The guy with the fastest bike doesn't necessarily win out in the desert. A guy who beserks it may win once or twice but he's bound to fall sooner or later. I love to see a guy ride all crossed-up and crazy. I just think of all the trophies I'll win while he's recuperating! Riding crazy just isn't the hot set-up.

Q. *Do you wear any protective equipment besides a helmet?*

A. Sure, racer-type boots and gloves, leathers, and shoulder pads.

Q. *Shoulder pads?*

A. Well, *you* go and pitch yourself off onto a pile of rocks. Let me tell you, friend, *you're not gonna hurt the rock!* I broke my collar bone twice, once in a crash at 20 miles per hour. If there's anything I can do to help keep my bod intact, I'm gonna do it. My friends say, "Hey, aren't those things uncomfortable?"; not any more, they're not, and I haven't hurt a shoulder or collarbone since I've been wearing them.

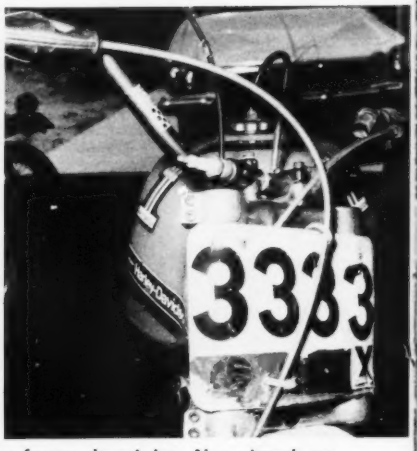
Q. *What's your advice for a novice motorcylist?*

A. Like I said, if you're gonna ride, you're gonna fall. So, if you don't want a full coverage helmet, at least lay out three or four bucks on a football helmet-type mouth guard. My jaw would be ground away or pushed back to my Adam's apple by now if I didn't wear one. Besides, I can't afford any dental bills since I'm not in the service. Also. I recommend goggles instead of face shields. They don't distort your vision, they're easy

continued

to clean, and the lenses can be changed for night riding more easily than carrying along another bulky face shield. They're also cooler than a full coverage set-up. Of course, if you're from Alpina, Mich., or some place, a full coverage helmet can help keep away frostbite of the nose. Gloves are helpful, too. I use the best I can buy, the ones with the protective padding strips along the fingers. I have a buddy who struck a metal surveyor's post with his hand. He busted two fingers, but you should'a see that glove! The finger protectors were cut almost in two. He believes he would have lost the fingers, instead of just breaking them. I fell off back in December and something poked a hole in my leg but didn't pierce the leathers. Can you imagine if I'd been wearing jeans? My leg would be ripped from here to there. You can never be wearing too much safety equipment, especially when you're learning to ride.

Q. *What are your plans for the future?*



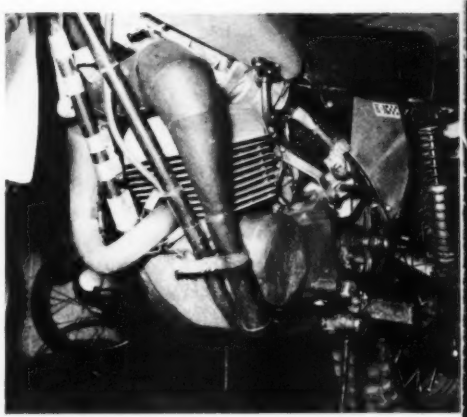
Spares galore! A spare shift lever is taped to the frame downtube. Also stored are cable clamps and spare cable ends. An extra spark plug resides in the handlebar clamp. Solid, not tubular, aluminum handlebars are extremely hard to bend and stand up well in the event of a crash. Competition number is from a recent desert race.

A. To keep racin', keep havin' fun, and maybe try and get a ride for the 6 days (International Six Days Trials).

Q. *Anything Else?*

A. Yeah, watch out for the high side!* ⊕

**For you non-riders this means not making a corner.*



(right)
This exhaust system may be a welder's nightmare, but it's a rider's dream. It's efficient, quiet, and it's tucked up well out of the way of rocks, logs, etc. The best part is that since it doesn't run to the rear like most pipes, it can't burn the rider's legs.

MECHANICAL BREAKDOWN OF THE OGILVIE/ROESELER BAJA 500 WINNER

1975 Harley-Davidson SX 250

Frame dimensions stock, but frame extensively gussetted and braced.

Shocks: Curnutt rebuildable, forward mounted for more swing arm travel. This set-up offers better handling on extremely rough ground.

Forks: Mulholland

Fork Fluid: Moly Blue, light. (Baja only, normally uses ATF)

Seat: Stock, but with three extra inches of padding.

Levers: Magura

Fenders: Preston Pretty

Tank: 4.1 U.S. gallons

Air Filter: K & N

Tires: Front—3:50 x 21 Cheng Shin, Rear—4.50 x 18 Cheng Shin; both are 6-ply rated and can be ridden flat with little or no sidewall damage.

Carburetor: Mikuni, 34 mm. Easy to rejet, dependable.

Weight: At 245 lbs., it's 20 lbs. heavier than it could be. Extra weight comes from brackets, gussets, and reinforcements.

Bruce Ogilvie contemplates the victor's brew. Beer gave way to Gatorade moments later.
Photo courtesy of CYCLE NEWS

LETTERS TO THE EDITOR

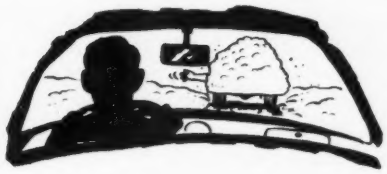
BACKFIRE

Address your letters to:
Editor
DRIVER Magazine
AFISC/SEDD
Norton AFB CA 92409

SNOW ON THE BUMPER

I have been stationed here, at Wurtsmith AFB, Michigan, for some time, and last winter I noticed something dangerous about the late model cars with the rear safety bumpers.

Since they hang out further from the body of the car than the older ones do, these bumpers tend to collect a build-up of snow. On several of these type bumpers this build-up will



cover all of the rear lights, which is a very dangerous situation.

I read every issue of DRIVER that I can get hold of and like your very informative magazine very much.

SSgt Peter L. A. Avner, USAF
202 Lake Street
Oscoda, MI 48750

We can't repeat it often enough—keep all your lights clean all the time. In winter it's suicide not to. Tail lights and brake lights may be the only way the driver sliding along back there behind you will even realize you're up ahead.

STOPPING DISTANCES

Please set me straight on whether a motorcycle can stop faster than a car. I've heard claims either way. If I believe it cannot, I'll be safe. If I believe it can, I won't drive that way anyway and I'll still be safe!

Maj Peter G. Davies, USA
FAO
Ft Lewis, WA 98433

All things being equal (road condition, drivers' experience, vehicle condition), a motorcycle with a disc brake will stop faster than a car.

Vehicle	Stopping Distance from 60 MPH
1975 Yamaha XS 500	121 feet
1975 Honda 500 T	127 feet
1975 TR7	153 feet
1975 Bobcat	164 feet
1975 Toyota Pick-up	193 feet

BUT, a 250cc or larger cycle with no disc brake, or almost any pre-1968 motorcycle, can't be stopped as fast as a car. Street riders should follow Major Davies' advice: always ride as though the car can stop faster than you can.

SOME SERIOUS THOUGHT

Your magazine is one of the very best of its kind, regardless of source. I've been driving for more years than I care to count, yet I learn something new from every issue.

On one score, I have reservations, though. Besides myself, most of my fellow medical officers deplore the encouragement of motorcycle riding, but the recent articles in DRIVER have at best skirted the issue of the horrible crippling mutilation that results when the victim of a motorcycle mishap *survives*—at least in the fatal ones, only the bereaved family is the loser.

I know enough about public relations to realize that you would never, under any circumstances, print explicit photos of the ghastly wreckage of human beings that gets carried away from motorcycle accidents every day. But those of us who have spent endless, heartbreaking hours in emergency departments and operating rooms trying as best we could to make at least a semblance of order out of the jigsaw puzzle of skin, flesh, and bone produced by this seductive piece of machinery would like to see it come to a stop. Instead, the explosion of motorcycle use seems to be expanding as gas and cars get more expensive.

I wonder if you will publish the relative statistics, and the *costs* of caring for motorcycle casualties just within the military community, let alone the community at large. Is the fun of motorcycling really worth the *high* risk of spending a lifetime of pain and crippling disability? You and your readers need to give this some serious thought.

Capt Norman Ronis (MC) USN
Bureau of Medicine and Surgery
Code 332
Washington, DC 20372

Certainly motorcycling can be dangerous, and we don't want to hide that fact from anybody. We want to point out, though, that street riding wouldn't be so dangerous if it weren't for automobile drivers. Sixty percent of the motorcycle accidents that injure or kill Air Force people are caused by errors committed by a driver, not a cyclist.

WEST COAST MIRRORS

In your July article, "See and Be Seen Driving," special emphasis is made of the possibility of an individual's nose being a major contribution to blocking vision. This is a valid point, but I believe a serious omission has been made later in the article. On page 25, item 12 states "Utility and recreation vehicles should use large west coast type mirrors on both sides." However, no comment is made as to the blind spot created by these devices. Obviously, it is much greater than those created by a door post or a person's nose. I believe this point should be stressed and operators of vehicles so equipped be

continued

made acutely aware of this severe restriction to maximum frontal and side vision.

This point was painfully brought home to me when a close relative was involved in a fatal accident which involved two vehicles, equipped with west coast mirrors, at an unobstructed intersection. I firmly believe that the blind spot created by the mirrors was a major contributing cause.

Mr. George L. Barthelemy
HQ & Instal Sup Activity
Ft Monmouth, NJ 07703

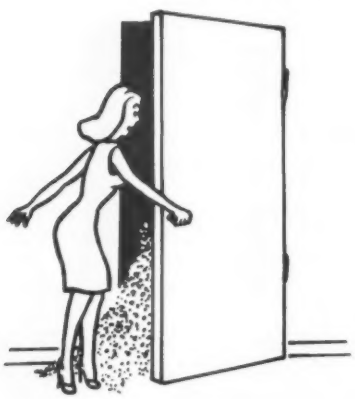
These big mirrors do indeed create blind spots and drivers must train themselves to move their heads and "look around" them.

CONVERTERS GOING OVERSEAS

I just finished reading "Backfire," August 1975, reference catalytic converter on 1975 cars going to Europe.

When I take my 1975 Pontiac to Germany next month, will I have any problems with the gas filler neck? Since the unleaded gas pump nozzle is smaller than the leaded gas pump nozzle in the U.S.A., the 1975 cars will only take the unleaded gas nozzle.

Mr. Mel Stanley
USA Electronics Command
Ft Huachuca, AZ 85613



When you take your Pontiac to a dealer to remove the pellets from the converter — only designated GM dealers will do it — he will also mount an inexpensive plastic adapter in the fuel tank filler neck to permit using unleaded fuel while the car is in Germany. Remember that it is up to you to store the pellets so that they can be replaced in the converter as soon as the car is returned to the U.S.

DRIVING IN KOREA

I worked in Korea for five years and became very familiar with the traffic and accident problems. My wife, a native Arizonan, at first refused to drive in Korea but soon became confident enough to drive even into the center of Seoul. Like all American drivers, she had to learn to yield to anything big, fast, young or old. That

is a rule the safety people in Korea stress, and it's a good one.

Mr. T. P. Henry
Red River Army Depot
Texarkana, TX 75501

RIGHT, NOT LEFT

The August article on "Driving in Spain" has made quite a splash here. However, as always, even after proofing and editing, a small error of fact got in and I'm sure some of your eagle-eyed readers will spot it. I am referring to the paragraph beginning with "Truck drivers are required by law . . ." It ends with the statement that the trucker will indicate safe passing with his left turn indicator, when actually the reverse is true. If it's clear, he'll blink his *right* turn signal.

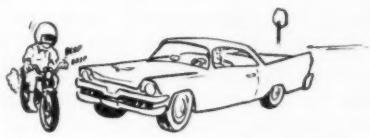
Keep up the good work on one of the most professional of military-produced magazines.

Maj Hal A. Lacy, Jr. USAF
401 Tactical Ftr Wg
APO 09283 New York

PROTECT YOURSELF

First, let me say I appreciate your coverage of motorcycle safety and riding procedures. I've been riding bikes for over 10 years and, like most experienced riders, I felt I knew it all. I now realize I was practicing (and, unfortunately, mastering) procedures inconsistent with safety.

However, there are a couple of things I have observed that may help others. One is the horn. The standard "beeper" is hardly enough to distract and/or discourage that '57 DeSoto you're about to cream. Since



most bikes have a 12-volt system, an inexpensive "loud" horn can easily be adapted.

Also, dogs usually run behind, not in front of, a bike. If you're riding behind someone, then you're the one who will get dumped when the dogs attack.

Helmets help! I know! I believe mandatory helmet laws should be dropped, but only because we are being regulated enough as it is. Those people who want the law changed so they can ride without a helmet have never been dumped on their heads (at least not since their first birthday).

Again, thanks for the eye-openers and keep up the good work.

SSgt C. M. Dill
AFROTC Det 825
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Austin, TX 78712

AN "ATTABOY" FOR US

We in the 1974th Communications Group wish to congratulate you and thank you for a superb publication. Your magazine makes a significant contribution to the USAF Safety Program and to the safe driving in our various communications squadrons and detachments throughout Thailand. The June article "On and off the Beaten Path" was right on for our guys and gals out here.

Keep up the good work.

LtCol John C. Howay, USAF
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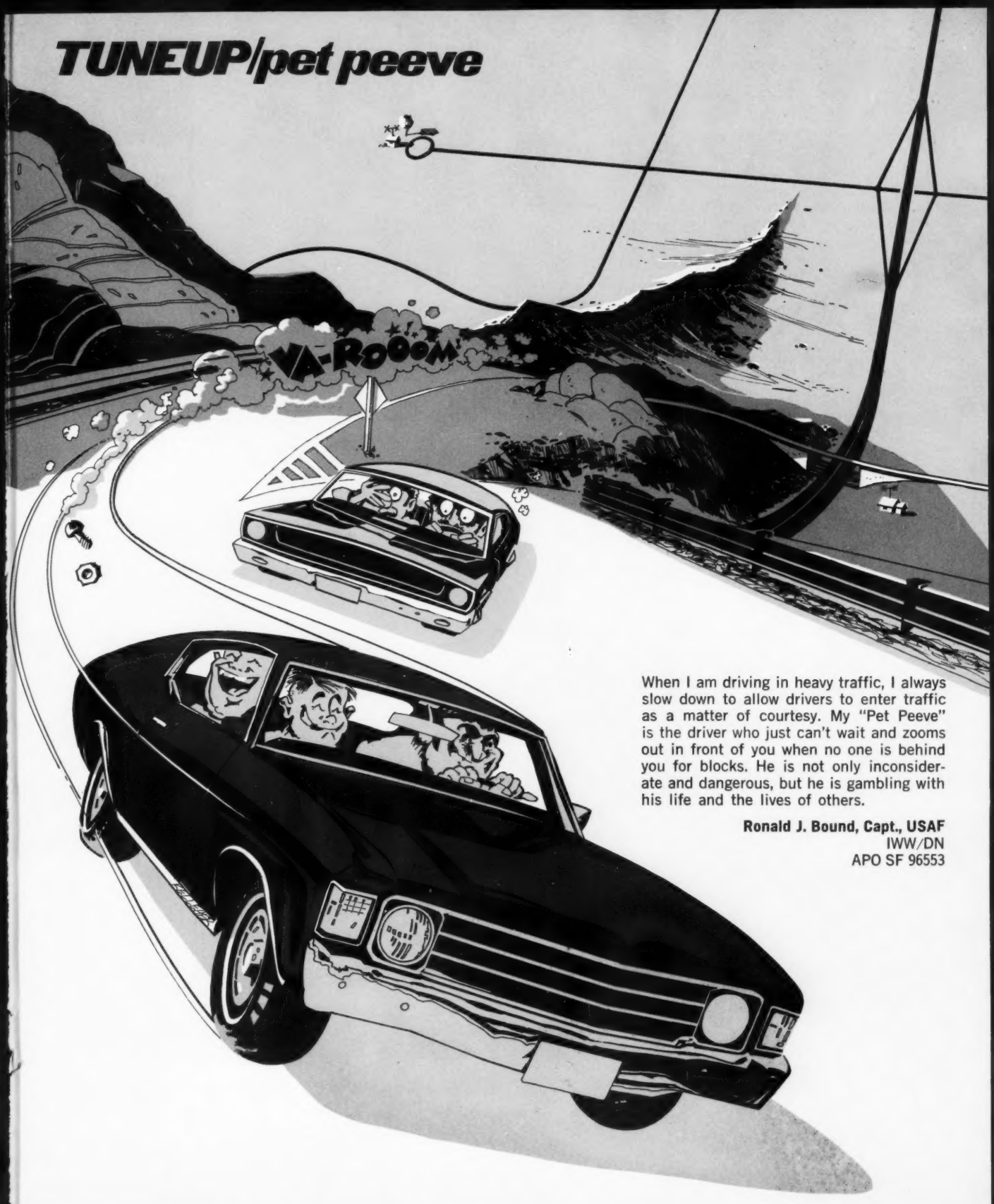
☆U.S. GOVERNMENT PRINTING OFFICE: 1975—683-113/14

TUNEUP/pet peeve



When I am driving in heavy traffic, I always slow down to allow drivers to enter traffic as a matter of courtesy. My "Pet Peeve" is the driver who just can't wait and zooms out in front of you when no one is behind you for blocks. He is not only inconsiderate and dangerous, but he is gambling with his life and the lives of others.

Ronald J. Bound, Capt., USAF
IWW/DN
APO SF 96553

BRAKE FAILURE!

You approach an intersection and routinely apply the brakes. Nothing happens!

Pump the brake pedal. You may regain some pressure. If this doesn't help, shift to a lower gear, so engine compression can help slow the car. At the same time apply the emergency brake.

If you are traveling down a steep incline when the brakes fail, and you can't reduce speed by down-shifting and using the parking brake, drive into heavy brush or snow, or sideswipe a guardrail, sandbank, or even parked cars.

Avoid a head-on collision at all costs.